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JUNE 1947

# MARKETING ACTIVITIES



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U. S. Department of Agriculture  
Production and Marketing Administration  
Washington 25, D.C.

IN THIS ISSUE:

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Issued monthly. Vol. 10, No. 4.

# Meat Supply—Last Half of 1947

By Richard H. Roberts

How much meat will the U. S. consumer find in the butcher's showcases during the remaining months of 1947? And what kind of meat will it be? U. S. Department of Agriculture livestock and meat specialists--the men who keep tab on what is happening in livestock production and marketing--answer these two questions like this:

Consumers, during the remainder of the year, can expect to find the butcher's meat supplies considerably larger than average, and more evenly distributed through the period than a year earlier. To be more specific, total meat supplies during the 4 months from June through September will be greater than in the same months of 1946 when marketings fluctuated greatly from month to month. During the final 3 months of 1947, commercial meat output is expected to be about as great as the large supply of the last quarter of 1946.

As to the kinds of meat that will be available the rest of this year, beef and veal will make up a greater than normal proportion of the Nation's meat supply. Pork supplies will total less than a year ago until the last part of this year. The supply of lamb and mutton will be less than in 1946.

This general picture of the meat situation for the next 6 or 7 months also describes fairly well the over-all meat prospects indicated for the full year of 1947. Latest estimates indicate the 1947 meat output will be about 23 billion pounds, and if achieved, it would be about equal the 1946 production--the fourth largest output on record. It would also be roughly a third more than the average yearly production in prewar years.

Our 1947 meat output will go mostly to U. S. consumers, since exports will take substantially less than in several years. Exports and other shipments out of the country may total about 600 million pounds, compared with the 1,140,000,000 pounds moved out in 1946. Purchases by the U. S. military forces so far this year have been running about 30 percent less than last year and are expected to continue around this lower level.

To get a complete picture of our meat supply for the rest of the year--why we will have, for example, more beef and veal and less pork, lamb, and mutton--we need to look into the situation regarding each kind of meat.

## Beef and Veal

Our production of beef may slightly exceed the 1945 record of 10.3 billion pounds--about 10 percent more than the 9.4 billion pounds produced last year. Compared with the supply available during the summer and early fall of last year, the output during the same period this year will be particularly large. Veal production also is expected to exceed

last year's--totaling about 1.6 billion pounds, compared with last year's 1.4 billion.

The large output of beef and veal this year, and particularly the large supply expected through the summer months, results chiefly from the producers' tendency to sell cattle more freely than a year earlier and from the fact that more cattle could be fattened because feed has been more plentiful this year.

At the beginning of 1947, the number of cattle and calves on farms was estimated at 81 million. Although this was somewhat below the peak reached 2 years before, it was about 15 million head more than the pre-war average. Within this total number was a greater than normal proportion of beef cattle, with beef cow numbers near the all-time high. The Department recommended a heavy slaughter of cattle and calves this year --34.5 million head--to bring cattle numbers into line with the long-run carrying capacity of the range and other production resources.

#### Cattle and Calf Marketings Breaking Record

To date this year, producers and feeders have been sending a record number of cattle and calves to market. During the first 4 months, federally inspected cattle slaughter was 37 percent greater than a year earlier, but this increase was partly offset by a decrease in non-inspected slaughter. All signs now indicate that the number of cattle and calves slaughtered in 1947 will be the largest on record. Thus far there have been no indications that producers are selling more than the usual proportion of breeding stock for slaughter. Such cattle, however, are generally sold in largest numbers during the fall months at the end of the grazing season.

An important factor in our increased beef supply this year has been the number of stocker and feeder cattle going into feed lots, and the marketings of grain-fed cattle. During the first 3 months of 1947, for example, the number of stocker and feeder cattle that moved into the Corn Belt States was considerably greater than a year earlier. On April 1, the number of cattle on feed for market in these States was 13 percent more than on that date last year. A larger number of grain-fed cattle means beef of better quality in the butcher shop. A majority of the fed cattle which have gone to slaughter so far this year were "short-fed"--that is, cattle that have been fed grain less than 120 days. Recently, however, the seasonal increase in longer-fed cattle began, and summer beef marketings should bring more Good and Choice steaks and roasts to retail shops.

In line with normal marketing practices, the bulk of the year's grain-fed cattle will have gone to slaughter by the end of the summer. From around mid-August until near the end of the year, the greater part of our beef supply will be from grass-fat cattle from the ranges and pastures of the country. It is expected that the beef supply during the last quarter of the year, when these grass cattle are being marketed, will equal or exceed the large beef supplies of the last quarter of the past several years. But this supply will be more evenly distributed

throughout the period and over the country than last year, when uncertainty about the continuance of price controls delayed marketings.

### Pork

In contrast with the greater supply of beef this year is the smaller output of pork. Total U. S. pork production is expected to be about 10 billion pounds, compared with the 11.2 billion pounds produced in 1946.

The chief factor contributing to the smaller pork output is the reduction in the fall pig crop of 1946. This crop--30.6 million head--was about 11 percent smaller than the previous year's crop. The tight supply of feed in the spring and summer of 1946, resulting from the low quality of the 1945 corn crop and the urgent need for grains for foreign relief purposes, caused farmers to reduce sharply the number of fall pigs raised last year. That crop plus the spring pig crop raised this year indicates a 1947 hog slaughter of from 72 to 74 million head. Such a slaughter would be 2 to 4 million head less than in 1946 but higher than in 1945 and the prewar average.

The pork supply situation for the remainder of the year will be characterized by a period of fairly short supplies followed by one of more plentiful output. In the summer months immediately ahead, pork supplies probably will be moderately smaller than during last summer. This reduction will reflect the decrease in the 1946 fall pig crop, which has been coming to market since early April. But the increased supply of beef during the summer and early fall should largely offset the decrease in pork. In the last quarter of the year, when the 1947 spring pigs begin to go to market, the pork supply is expected to increase to a more normal proportion of our total meat supply for that season. The spring pig crop apparently is about equal to last year's large crop. Marketings of spring pigs usually begin in volume during October and increase to the seasonal peak normally reached in mid-December. This peak is sometimes delayed until mid-January, especially if the corn crop is exceptionally large or of poor keeping quality and it is necessary to use as much of it as possible before warm weather begins in late spring.

### Lamb and Mutton

Lamb and mutton production for 1947 is currently estimated at about 800 million pounds, or about 15 to 20 percent below last year's output.

This substantial decrease follows a period of 5 years during which the numbers of sheep and lambs on farms were drastically reduced. On January 1 of this year, the number of stock sheep totaled only 32.5 million head, the smallest in the 80 years of record. Five years earlier the number was the largest of record, totaling more than 49 million head. The decrease of 34 percent since then was primarily the result of greatly increased labor costs in the industry, and in some areas of competition by other enterprises that yielded more favorable returns.

The Department has recommended a halt in the decrease in sheep num-

bers, indicating that this would require a reduction of about 20 to 25 percent from last year in the slaughter of sheep and lambs. This would leave the number of stock sheep on farms and ranches at the end of the year about the same as at the beginning.

Because the number of breeding ewes on hand this year is smaller, the lamb crop is expected to be about 10 percent down from 1946. Sheep and lamb slaughter under Federal inspection during the first 4 months of 1947 was about 27 percent less than in the corresponding 1946 period. As fewer lambs were raised this year, lamb slaughter during the remainder of 1947 will be less than a year earlier. Ewe slaughter also will be down from 1946 since numbers are smaller and the tendency to liquidate flocks is reduced. This means considerably less lamb and mutton for sale than was available in the latter half of 1946--but lamb and mutton normally make up less than 5 percent of our total meat supply.

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#### MARKETING ACTIVITIES READERS RATE ARTICLES

Readers of Marketing Activities were asked a few weeks ago to tell us which of the recent articles appearing in the publication they liked best. They also were requested to suggest ways in which the publication might be improved. The returns are in now.

As for articles, The Function of the Government in Marketing, by W. C. Crow, was liked by 16 percent of the readers replying. Next in order came More Research for Agriculture, by Grace E. M. Waite, 13 percent; Marketing Agreements for Fruits and Vegetables, by Floyd C. Hedlund, 12 percent; Improving Our Market Facilities, by J. S. Larson, 10 percent; Reducing In-Transit Egg Damage, by Orvis F. Johndrew, Jr., 6 percent; Broadening the Farm Products Market, by F. L. Thomsen, 6 percent; Price Support Programs, by H. B. Boyd, 5 percent; Standardization and Inspection of Fresh Fruits and Vegetables, by Grace E. M. Waite, 4 percent; The 1946-47 Grain Export Program, by L. K. Smith, 4 percent; Utilizing Vegetable Wastes, by Louis B. Howard, 4 percent; New Outlets for Farm Products, by Louis B. Howard, 4 percent; and all other articles mentioned, 16 percent.

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The majority of readers liked Marketing Activities "as is," but many advanced constructive suggestions for improvement. A surprisingly large number of readers called attention to the fact that the publication had carried no articles on livestock and meat marketing for several months. (Meat Supply--Last Half of 1946, which appears on page 3, may make up for this oversight.) More articles were requested on marketing practices for specific commodities, research of all kinds, dairy products, poultry products, and wool. Many readers asked that the bibliography, which appears on the last page of the publication, be expanded. (This is being done.) Several suggested that the articles be presented in digest form for quick, easy reading. (An effort will be made to keep the length of articles to a minimum.)

# Milk for School Lunches

By Grace E. M. Waite

Results of a dry milk test pilot program, begun last November to close a nutritional gap in the diets of thousands of school children, seem to indicate that another school lunch problem is solved. By next year, every child who participates in the Federal School Lunch Program in most schools should be able to have at least one glass of milk every school day.

Not all this milk will be fresh milk. In milk-deficit areas some of it will be reconstituted nonfat dry milk. But the dry milk contains all the calcium, riboflavin, and protein that fresh whole milk contains. Fat and vitamin A are missing, but school children can get enough of these nutrients from carefully selected other foods.

The need for more milk in school lunches has been apparent for some time. In the 1944-45 school year, many schools in the Rocky Mountain States served milkless lunches. In 12 Southern States, 42 percent of the lunches served under the program were milkless (in Georgia, South Carolina, and Louisiana, 60 percent of them).

The school lunch people in the U. S. Department of Agriculture were concerned. Local authorities in these low-milk areas just couldn't get enough safe fresh milk for the program. Yet growing children need milk to build strong bones and good teeth. The calcium in milk does this. It also helps regulate the heartbeat and maintain the normal health of the nerves. But it is difficult to get enough of this bone- and tooth-building material and of riboflavin and protein without drinking milk.

## Nonfat Dry Milk|Tested

The Department had considered the use of nonfat dry milk for school lunches in these areas. By midsummer of 1946, representatives of the Department and other Federal agencies and the National Research Council in a joint meeting adopted a resolution recommending a test program to find out whether powdered skim milk could be used in the School Lunch Program.

There had been considerable laboratory experimentation with dry milk, but would it survive the taste test by hundreds of school children? Would the schools have the facilities to mix the dry milk solids to make an acceptable drink?

The program looked like a good idea. If it succeeded, it would give school children in milk-short areas the milk they needed. At the same time, it would provide an outlet for the large supplies of dry milk that were available. Drying plants that operated during the war would be able to continue manufacturing dry milk to take up the large quantities of skimmed milk left from making butter and other dairy products. Finally, the program would focus attention on the nutritional values of

milk, help to establish the milk-drinking habit, and stimulate the growth of local dairy industries in that area.

By November, the program was ready for its first workout. The National School Lunch Act, passed during the preceding July, had provided for the purchase and distribution of supplementary supplies of food without regard to surplus, in addition to the cash reimbursement program.

It was not long before 8 States had enthusiastically accepted the idea of using dry milk. In these States 657 schools are now using the product. Only those schools in areas where a supply of fresh milk is not available are included in the test pilot program.

### Results

Results are beginning to show. Dry milk has been used successfully in 88 percent of the lunches served--nearly a quarter of a million of them.

Most of the children like the reconstituted milk served as a beverage. Some like it better with chocolate or other flavoring, some like it plain. Some lunch cooks are putting the dry milk in soups and creamed dishes, meat loaves, rice pudding, custards, and other desserts.

A New Mexico school lunch manager wrote in, "We would like to know if there is a limit to the milk which a child is to be given. Some children have asked for a third or fourth helping!"

Another manager commented, "We are very much pleased with the general response we are getting from the children and the marked change which we find in the students."

One mother said gratefully, "My little boy is actually gaining weight since he has been getting that fine milk served at our school project."

Reports coming in to the Department give some close-ups of how the program works. The Costilla (N. Mex.) Public School started the program early in January. About 130 of its 425 pupils in the grade, junior, and senior high schools eat at the lunchroom. Costilla school officials say the use of reconstituted milk is increasing daily.

Mixing apparently presents no problem. About an hour before serving, the head cook mixes the dry milk powder with cold water, using equal parts of dry milk and water. She pours it through a dairy strainer and then through cotton filter disks to remove lumps and excess foam. The milk remains cool without refrigeration.

On a typical day the Costilla school served 133 children. Only a dozen children refused the milk, and none of them left as much as half a glass.

Many favorable reports have come from schools in other States par-

ticipating in the program. A Georgia teacher writes that the children are "eating their lunch better" since milk has accompanied the meal. A supervisor in South Carolina, commenting on the use of dry milk in the school lunch, said, "If the milk should stop, they [the children] will never again feel fully filled or satisfied." Some teachers have increased the use of milk in their schools by drinking it with the children and telling them about the benefits of milk.

The program to put milk on school lunch menus is gathering force. In 11 States, thousands of pounds of dry milk are expected to be used in cooking. Five other States plan to join in the program next year.

Purchases of this extra-grade, spray-process dry milk for school lunch totaled 16 carloads for the school year just ended. It is estimated that about 100 million pounds of nonfat dry milk could have been used if school lunches served without milk in the 12 Southern milk-short States in 1945 and 1946 had included half a pint of milk a day for each child.

And the program has wider implications still:

If school children like reconstituted dry milk, couldn't it also serve as a milk supply source for children and grown-ups too in scattered and hard-to-reach milkless communities?

Could it bolster the health of people in general, by being an ever-ready source of this vital food?

If these questions can be answered "Yes," then we may have a big, hitherto untapped market for dairy farmers which will help them to keep production high after the export market has dwindled, and will remove the threat of flush season surpluses.

#### SURPLUS PROPERTY DISPOSALS

Products sold by the U. S. Department of Agriculture under the Surplus Property Act during the period May 1, 1944, to June 1, 1947, had a declared cost value of \$97,144,859. The actual realization from sales of these products totaled \$89,704,829, or 92.3 percent of the declared cost value.

Products remaining in inventory on June 1, 1947, had a cost value of \$9,294,299. Included among the inventory items are cigarettes, cigars, ice cream mix, flavorings, candy, and fruit juice.

(In the May 1947 issue of Marketing Activities, the actual realization from sales of surplus products during the period May 1, 1944, to March 28, 1947, was erroneously reported as \$8,555,324. It should have been reported as \$88,555,324.--Editor.)

# Seed Drying—the South's New Industry

By Jay J. Richter

For the first time, prospects appear bright for a major seed drying industry in the South which may mean millions of dollars of added income for the area.

At 10 points in Georgia, Florida, and Alabama, seedsmen are planning to install dryers this year. The immediate purpose is to dry the ever-increasing production of blue lupine seed, which requires quick and efficient handling and drying. But the drying establishments also can be used for many other purposes, such as drying and processing peanuts for seed; curing sweetpotatoes; dehydrating and processing cull sweetpotatoes for stock feed; drying and processing watermelon seed; drying small grains, lespedeza, and field seeds; drying and processing surplus seed corn, small grains, peanut hay, and other feedstuffs; and dehydrating and processing kudzu for poultry and other feed.

Hitherto, most seed used in the South has been produced and dried elsewhere, then "imported" to local handlers. Last season, only three seed dryers were operating in Georgia, Florida, and Alabama. A three-fold increase in dryers this year, however, would provide southern seed dealers with local sources of supplies, and also give farmers local outlets for a vastly expanded seed production.

A quarter-million-dollar wartime dehydration plant in Vienna, Ga., which has been purchased by a farm cooperative, was converted to the drying and storing of blue lupine and other seeds produced in the South. Seed dryers are also expected to be in operation in Summersdale, Ala., and in Georgia at Cordele, Dawson, Abbeville, Moultrie, Americus, Perry, Unadilla, McRae, and Montezuma. Last season, dryers were in operation at Monticello, Fla., and Ashford and Alberta, Ala. Bill Reimer of Alberta, who dried more than 2 million pounds of blue lupine seed last year, reports that he hopes "to dry and sell twice as much this year, operating 24 hours a day."

## Relatively New Crop

Blue lupine is a relatively new crop. The seed harvested from the 1946 crop alone brought a gross return estimated at over \$2,000,000 to southern farmers and seedsmen. Yields of seed run as high as 2 tons per acre, with an average yield of half a ton. The Government is supporting the price of blue lupine seed of the 1947 crop through the Commodity Credit Corporation with a loan program. The 1947 loan rate to farmers is \$4 per hundredweight, less handling charges.

The main difficulty with blue lupine is its unusually high moisture content. High quality blue lupine seed can be obtained only by artificial drying. The seed when harvested contain up to 28 percent of water. They must be dried quickly or they will spoil, and then be stored properly or their germinating quality is impaired. Out of about 37 million

pounds of lupine seed produced last year, farm experts estimate that about a third of the potential value was lost because of inadequate drying and handling facilities. There is where the new plants come in.

The chief value of blue lupine (its blossoms actually are white) lies in its use by farmers as a cover crop to protect their land in winter. It is plowed up in the spring as a green manure for cash crops. It is no good for feed--it is bitter--but it results in near-miracle yields when corn, cotton, and peanuts are planted where it has been turned under.

Lupine seed from the present harvest, properly cleaned, dried, and stored over the 3-month period before planting time next fall, will mean greater returns to seed producers, as well as to farmers who plant it for cover and green manure.

Seed prices--and crop quality--depend upon seed quality. To qualify for the Government loan, lupine seed must test at least 90 percent germination, contain no more than 14 percent of moisture, and include no more than 1 percent of foreign matter.

Blue lupine not only increases yields by adding rich organic matter to the soil, but its use is a good long-term conservation practice which will rebuild the land. Next fall some 34,000 southern farmers will plant about 64,000 acres of the lupine for a winter cover and green manure crop in cooperation with the Agricultural Conservation Program of the U. S. Department of Agriculture.

In 1939, lupine was virtually unknown to farmers. Since then, its production has doubled almost every year. It can be grown successfully only in the South and only where the weather is humid.

It has been estimated that 200 million pounds of this seed will be needed in the near future. With the present bright outlook for more dryers, it appears that this need--a fourfold increase over even this year's expected production--may yet be met. In which case, the words of a young Houston County, Ga., farmer will prove prophetic:

"It looks," he said, "like a farm revolution is going to take place around here."

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#### JULY PLENTIFUL FOODS LIST

The following foods are expected to be in plentiful supply throughout the greater part of the United States during July 1947: Potatoes; fresh oranges and lemons; canned citrus juices and canned grapefruit segments; canned tomato juice; sauerkraut; canned peas (standard grade); canned diced carrots; canned diced beets; peanut butter; cottage cheese; fresh and frozen fish (excluding shellfish). In the use of this list, the local availability of each item should be verified.

# Four Committees Recommend Projects Under Research and Marketing Act

Recommendations for research projects to be conducted under the Research and Marketing Act of 1946 were made recently by three commodity committees (potato, cotton, and poultry) and by one functional committee (transportation). The reports containing these recommendations are summarized in this issue in considerable detail for the benefit of the many Marketing Activities readers to whom this act and the work that will grow out of it are a subject of great interest.

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The Potato Advisory Committee, in outlining its recommendations for research, arranged the proposed projects under four heads--production marketing, consumption for food, and industrial uses for surplus potatoes.

## Production

1. Improving quality.--For example, development of varieties having better cooking qualities under the different growing conditions in different producing areas.

2. Reducing fluctuations in yields.--For example, development of varieties resistant to the virus, fungus, and bacterial diseases that frequently cause serious reductions in yields, and of varieties tolerant to the adverse weather conditions of different growing areas.

3. Increasing efficiency in production.

4. Adjusting production to demand.--For example, analyzing total production in relation to consumption and price.

5. Performing research on the production, quality control, handling, storing, testing, and marketing of seed potatoes and foundation seed stock.

## Marketing

1. Quality improvement.--This includes such items as research on cleaning methods, windburn, deterioration in transit, prepackaging, and consumer preferences for sizes and grades.

2. Market prices.--Research in market price relationships should include the relation of total available supplies and the general level of purchasing power to the prices that consumers pay, the wholesale markets, and the prices farmers receive. It should deal also with the relation of volume of unloads in large central markets, the current prices

in those markets, the price spreads between markets, seasonal variations, and prices by varieties, grades, and qualities.

3. Seasonal distribution among markets.--The seasonal supply of potatoes from various producing areas and the potential market demand for corresponding months should be analyzed to provide the basis for an adequate information service to producers and distributors.

4. Marketing costs.--The methods of transporting and handling, and the costs or charges at each point in distribution, should be examined to find ways of improving and handling potatoes, expanding the market in some areas, and reducing the spread between producer and consumer.

5. Marketing agreements.--Research is needed to determine the most advantageous types of regulations and methods of integrating these regulations for the various agreements in operation during a specific marketing period.

6. Government programs.--Study is needed to develop potato programs that will be in the best interest of the consuming public, the potato industry, and the taxpayers.

7. Foreign trade.--There are possibilities in research on problems of the export trade, such as improved methods of packing, handling, and grading.

#### Consumption for Food

1. Demand and consumer preference.--Relate the consumer's income, family type, place of residence, and the season to the consumption of potatoes. Develop reliable information on the relation of potato prices to their consumption. Discover the characteristics that consumers want for various potato uses, the reasons for present dissatisfaction with potato supplies, and preferences in packaging and merchandising methods.

2. Marketing information for consumers.--Develop labeling methods to indicate grades or other information about potato quality and characteristics that will assure the housewife the kinds of potatoes she wishes.

3. Consumer education.--Discover better ways of informing housewives of the value and uses of potatoes.

4. Potato availability.--There is considerable variation in potato consumption geographically and seasonally. Further consumption study is needed.

5. Institutional use.--Research is needed on the demand for potatoes by hotels, restaurants, and other institutional users.

6. Potato specialties.--Technological research is needed to develop other potato specialties such as potato chips.

Much additional research is needed in developing nonfood uses of potatoes. The aim should be an improvement of present technology in the production of such products as potato glucose and starch, and the development of economical ways of preparing dehydrated potatoes and ensilage as feedstuffs. The research should also include development of new and profitable industrial outlets. The work would include such subjects as dehydration; glucose feed; preservation of whole, ground, or sliced potatoes; denaturing of diversion potatoes; lactic acid; and chemical control of stored potatoes.

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The Cotton Advisory Committee, in outlining its recommendations for research, arranged the proposed projects under the following heads: Production; marketing, utilization, and prices; ginning and marketing raw cotton and cottonseed; domestic utilization of cotton and cottonseed; foreign market outlets; price and supply analysis; and associated problems.

### Production

1. Mechanization.--Machines must be reduced in size and cost and be made suitable for use by operators large and small. Equipment to prepare the soil, plant, dust for insect control and defoliation, control weeds, and harvest the crop on all types of cotton farms must be made available, with much of the equipment made adjustable for multiple uses. Picking machines must turn out better-quality cotton. Cleaning, extracting, and ginning machines must be developed to handle machine picked cotton.

Research should be pointed toward answering these questions: What kinds of new equipment are usable in different areas? How can this equipment be adapted for use on small farms or for custom work? What are the cost and performance rates for the new kinds of machines under varying field conditions and with varying yields per acre? How do the new machines fit into profitable systems of farming that maintain or improve soil resources? Will mechanization result in larger net incomes to farmers?

2. Plant breeding.--Further improvement is needed in fiber strength, fiber structure, fineness, and other properties that contribute to cotton spinning quality, and in developing varieties that will produce fiber particularly suited for specific uses. Needed also are varieties with plant, boll, and leaf types suitable for mechanized production, and varieties with greater resistance to diseases and insects. Cotton breeding stocks with desired properties should be collected from foreign lands. The development of faster and more reliable testing techniques for determining quality properties in cotton fiber is necessary to enable the American cotton breeder to progress in quality improvement.

3. Cultural practices.--Cultural practices have been developed that reduce vegetation and branching, and increase earliness and uniformity of fruiting. This research should be extended. Weed control needs further investigation.

4. Standardized production and seed stock increase.--Badly needed are research on organization and financing for establishing and operating seed-increase groups, and research on storage problems of planting seed.

5. Insect control.--Research is needed to develop more effective insecticides, more satisfactory equipment and methods of applying insecticides, insect-resistant strains of cotton, and agricultural practices that will reduce insect damage.

6. Soil management and conservation practices.--Present soil research should be continued and adapted to the needs of specific, local situations. It should also be directed toward (a) discovering new crops and uses for severely eroded and abandoned areas, (b) determining efficient methods of draining flat lands suited for mechanization, and (c) developing water conservation practices and wind erosion control measures for the western part of the Cotton Belt. Effective cropping systems need to be worked out; this involves research on fertilizer materials and sources, crop rotations, lime, cover crops, manures, tillage, and other conservation measures for each major soil condition.

7. Profitable systems of farming.--Research should be performed that would give farmers information to help them determine the most profitable system of farming for a particular area. It should take into account the cropping systems that maintain and improve soil resources; mechanization and other improved techniques and practices (including consideration of the possibilities of using certain machinery on a custom or community basis); demand and cost outlook; size and location of farm; and crop and livestock combinations.

8. Capital requirements and means of financing profitable changes in cotton areas.--New capital requirements for making desirable changes need to be estimated, and sources of financing the investment need to be studied.

9. Pilot farms.--We need facilities for trying out on a farm-scale basis the most promising systems of farming and farming practices, utilizing all the research results from crop, soil, and pest-control experiments, field testing of machinery, and economic analysis of profitable systems of farming.

10. Measurement of current and prospective changes in production, income, and costs.--Research should be undertaken to measure the effects of current changes in farming, production, income, costs, and net returns per farm and per worker. Plans should be made to obtain annual statistics on these items for the major types and sizes of farms in different farming areas.

Research should be performed to develop the best possible methods of ginning seed cotton, and of packaging, merchandising, transporting, storing, and processing cotton lint, cottonseed, and their products.

Ginning and Marketing Raw Cotton and Cottonseed

1. Ginning and packaging.--Equipment and methods should be developed to process mechanically harvested cotton with a minimum loss in quality and with maximum efficiency. More should be done to solve ginning problems peculiar to certain low-humidity and high-humidity areas. Economic studies of the location, size, organization, and operation of ginning plants should be expanded.

2. Compression, storage, transportation, and related services.--Integrated engineering and economic research is needed to develop improved equipment and methods for handling cotton bales more efficiently, particularly while they are being compressed, stored, or shipped.

3. Merchandising raw cotton.--Marketing efficiency in the local markets could be improved by effective standardization of production in various areas on a variety basis and by the development of suitable procedures of marketing to assure the delivery of cotton to mills in pure-variety lots from each standardized producing area.

4. Marketing cottonseed.--Research should be intensified to develop a simplified system of grading cottonseed applicable to small lots. This would encourage individual farmers to produce good-quality seed and to take care of it properly.

5. Market information and statistics.--Existing outlook, market-news, statistical, and classing services should be strengthened, and a comprehensive study should be made of industry requirements, with particular reference to developing more nearly adequate services.

Domestic Utilization of Cotton and Cottonseed

1. Cotton fiber properties.--Additional studies are needed of the physical and chemical characteristics of cotton fiber and of methods for altering these properties by mechanical and chemical means so as to fit cotton yarns, fabrics, and other products closer to specific end uses. Studies should also be made of the non-cellulose constituents of cotton and of their relation to various end uses.

2. Cotton processing machinery and test equipment.--More should be done to develop new and better mechanical processes and equipment in order to lower costs and promote the economical manufacture of cotton into useful goods.

3. Chemical treatments of cotton.--The chemical treatment of cotton products to improve their utility and appearance is a promising field for research.

4. New and improved cotton products.--The development of cotton products that will meet the requirements of specific uses should include four steps: (a) Determination of physical, chemical, cost, and other requirements of the particular use; (b) experimental manufacture of a cotton product by application of standard or new techniques in processing and (or) the application of chemical treatments and finishes; (c) evaluation by laboratory tests to determine whether the product meets the desired specifications; and (d) service tests to determine whether the product meets all the use requirements.

5. Storage and processing of cottonseed and its products.--New and improved methods and facilities should be developed for handling, storing, and processing raw and semifinished products of cottonseed and its byproducts.

6. Properties and expanded uses of cottonseed and its products.--Additional studies are needed of the various properties of cottonseed and its products in relation to specific uses for food, feed, and other products.

7. Domestic market outlets for cotton fiber and cotton products.--Additional studies should be made of the effects of various economic and political factors (such as quality, consumer incomes, prices, manufacturing and distribution margins, advertising practices, discriminatory taxes, Federal and State regulations, and consumer preferences) on the consumption of and demand for lint cotton and its major competitor products--in the aggregate and for specific end uses.

8. Domestic market outlets for cottonseed and cottonseed products.--Additional studies should also be made of the effects of various economic and political factors on the quantity of cottonseed products consumed in the United States in the aggregate and for specific uses.

9. Methods and facilities for packaging and marketing cotton and cottonseed products.--Studies are needed of the techniques, costs, and margins in the handling of cotton and cottonseed products, and of ways of improving techniques and reducing costs and margins for these services.

#### Foreign Market Outlets

1. Foreign consumption and factors of demand.--Thorough studies need to be made of the raw cotton needs of foreign countries and their external purchasing power under postwar financial conditions; of the purchasing power and preferences of consumers within those countries; of the national trade and fiscal policies of foreign governments and of the U. S.; and of the relative importance of textiles in the pattern of foreign consumer expenditures.

2. Foreign competition.--Developments in the production and price of foreign cotton and of synthetic fibers, paper, and other substitute products as they limit the ability of the U. S. to sell cotton abroad should be studied.

3. Current foreign information service.--Facilities should be provided to increase the flow of current information from foreign sources and to digest and supply the information to farmers, farm groups, and State and Federal agencies, to help them formulate interim measures for the protection of U. S. cotton exports.

#### Price and Supply Analyses

1. Factors affecting cotton and cottonseed prices.--Additional studies are needed to indicate how much the basic prices of cotton and cottonseed (in the U. S. and some major foreign producing and consuming countries) are affected by changes in the domestic and foreign supply of cotton--by consumer incomes and practices, by the level of domestic and foreign industrial production, and by the general level of commodity prices and other factors.

2. Responsiveness of production to prices and other factors.--Further studies should be made to determine how much U. S. cotton acreage and production are affected by the prices of cotton and cottonseed, the prices of other farm products, production expenses, and other factors.

3. Price relationships with competing products.--Analyses are needed of the factors determining the prices at which other natural fibers, synthetic fibers, and paper products compete with American cotton. Similar studies are needed with respect to the products that compete with cottonseed oil, meal, and hulls.

#### Associated Problems

The Cotton Advisory Committee also recommended research that would help to solve certain social and economic problems in the South--studies for example relating to alternative and supplementary sources of farm income, labor displacement, and aspects of family living in the Belt.

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The Poultry Advisory Committee, in outlining its recommendations for research, divided the projects as to production, marketing, and utilization.

#### Production

1. Poultry breeding.--Genetic improvement in poultry is greatly needed with respect to average egg production per layer, egg quality, broiler fleshing and feed efficiency, turkey egg hatchability, and viability. Also needed is improvement of poultry breeding methods. Hybridization and crossbreeding should be rigorously compared with selective breeding within standard varieties to determine the relative cost and efficiency of the methods.

2. Poultry feeding.--Poultry feed manufacturers must use high margins of safety, often double the known requirement for a particular nutrient, because ingredients vary greatly and storage deterioration is

difficult to predict. Information is needed that will lead to standardization of nutrient value in feedstuffs.

3. Physiology.--Thirty percent of the eggs that are set fail to hatch. Research into the physiological processes affecting reproduction may help to reduce this high rate. It may also lead to sustained high egg production in hot weather and during the short days of winter.

4. Poultry husbandry.--Poultry shelter design has been based on opinion, convenience of the operator, and cut-and-try practice. Basic information on environmental requirements of poultry is lacking. Research is needed to show optimum housing conditions for economical use of feed, egg production, and fowl growth and health. In addition, farm management studies are needed to show where the poultry enterprise can fit best into balanced farm operations.

5. Poultry diseases and parasites.--Diseases of bacterial, virus, parasitic, and nonspecific or nutritional origin cause the death of 10 to 20 percent of the chicks brooded, 20 to 30 percent of the turkeys brooded, and 15 to 20 percent of layers housed each year. Diseases also cause great losses in egg production and in the grade of market poultry. Research is needed on improved field diagnostic techniques of pullorum disease and on variant pullorum. Effective means of controlling fowl cholera and coryza are lacking. Other diseases on which additional work needs to be done are laryngotracheitis, pox, chick bronchitis, Newcastle disease, the avian leukosis complex. Research is recommended on internal parasites including tapeworms and coccidia, and external parasites, including lice, ticks, mites, and fleas.

### Marketing

1. Assembly.--The handling of eggs and poultry on the farm, in the assembly phase of marketing, should be improved. The wasteful duplication of collection routes and trucks should be reduced or eliminated. Local per-unit assembling and handling costs should be reduced by determining how great the volumes should be for economical and efficient operation.

2. Distribution.--Technological and economic developments of the last decade have caused many changes in the distribution of poultry products. Many basic problems remain unsolved, and the new developments have created new problems. Distribution areas in which more research is needed are indicated in the following headings from the Committee report: Marketing of Poultry Meat; Live Poultry Market; Blood and Feather Dressed Poultry Market; Eviscerated Poultry Market; Cut-Up Poultry Market; Storage of Poultry; Farm Processing and Marketing of Poultry; Movement of Poultry Products on a National Scale; Inspection of Poultry Products; Turkey Marketing Problems; Commercial Marketing of Poultry Products; Marketing of Eggs; Dried Egg Market; Frozen Egg Market.

3. Marketing facilities and services.--The Poultry Advisory Committee recommended a number of specific research needs in connection with country assembly and processing plants, refrigerated warehouses,

poultry and egg plants and wholesale stores in terminal markets, and retail stores (including chain stores). Examples of what is needed are:

A study of existing health regulations with a view to working out some degree of standardization;

Specific information on refrigerated warehouse space which will permit definite recommendations for the expansion of existing facilities or for the development of new facilities when they are needed;

More detailed and extensive studies of existing poultry and egg markets, which will indicate inefficient practices on terminal markets, and of properly designed lay-outs for live-poultry, shell-egg, and dressed-poultry stores that will serve to guide wholesalers in the planning of new facilities;

Improvement of refrigeration equipment in retail stores; and

Information on the adequacy and efficiency of the refrigerated trailers now in use for hauling poultry and eggs.

4. Processing technology.--Poultry-killing methods should be studied in terms of efficiency and of facilitating the processing operations to follow. The effect of processing factors on quality needs study. Bacterial and sanitary standards for poultry products should be established, after thorough organized research has furnished the information on which to base the standards.

Even though shell oiling has been practiced for some time, there is no agreement on the optimum temperature for oiling or the best methods to use. A research program to study such problems is recommended.

5. Prices.--Specific research needs were listed by the Committee under the following heads: Basic Data on Poultry Production, Egg Production, Marketing and Market News, Prices and Income, and Consumption and Special Projects; Effects of Prices on Production and Marketings; Factors Affecting Prices; Consumption and Demand (Including Effects of Prices, Income, and Related Factors on Demand, Consumer Acceptance Studies, and Expansion of Domestic Markets); Foreign Competition and Demand; and Costs and Margins.

### Utilization

1. Eggs for food use.--Research on eggs for food use is needed with respect to the effect of egg white in the diet, and the retention of nutrients during egg storage, cooking, and freezing. Additional research is needed on the grading of eggs in relation to their flavor and use in cooking. More research is needed to put home freezing and other home methods of preserving eggs on a sound basis.

2. Poultry meat.--The Committee recommended research on the composition (particularly amino acid, B vitamins, and calorie values) of all types of poultry meat of the cuts commonly marketed, and of cooked and

processed products. Extensive investigation of the yield of boned poultry for commercial canning is also needed. Information is lacking on the best methods of cooking, packaging, and freezing raw and cooked poultry, and also on freezing cooked poultry in practical recipe combinations. Birds differing in breeding, feeding, age at slaughter, market grade, storage history, and other factors important in production, marketing, and utilization should be studied for yield and palatability.

3. Nonfood uses.--The Committee suggested research on the utilization of wastes from poultry dressing plants. For example, it estimated that 100 million pounds of feathers from dressing plants go to waste each year (only 10 million pounds being put to use).

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The Transportation Advisory Committee listed the following as "general problems of immediate importance":

1. Efficiency should be gained in the handling of existing, available railroad equipment, so that farm products and supplies may be moved expeditiously and without loss.

2. Research should be increased--in cooperation with manufacturers of equipment, associations of producers, shippers, receivers, and others --in order to develop improved equipment for railroad, motortruck, boat, and airplane transport.

3. More information should be developed on the cost of operating common, contract, and private trucks, so that shippers may select appropriate means of transporting their products and measure the fairness of existing charges.

4. A study should be made of commodity group relationships over approximately the last 20 years, for the purpose of comparing the revenues from hauling agricultural products with revenues from hauling all other commodity groups.

5. USDA should continue working with the Interstate Commerce Commission to develop studies on agricultural commodities similar to the studies already made of apples and potatoes from waybill information.

6. Federal taxes on transportation charges applied as a war measure have been continued. Automatically increasing with each successive advance in freight rates, the taxes distort competitive rate relationships. The effect of the taxes should be studied.

7. A Nation-wide study should be made of rates and charges for the transportation of fertilizer by railroad, water, and truck lines.

8. A thorough analysis should be made of the effect of Federal and State regulatory statutes on transportation and on the freedom of distribution of farm commodities by carriers of all types.

9. In determining the mileages and locations of farm-to-market roads upon which Federal and State funds are to be spent, data other than a count of vehicles passing per day are needed for study. Such data could be obtained by including suitable questions in the Census questionnaires.

The Transportation Advisory Committee also invited the other advisory committees to answer the following questions in regard to the agricultural products with which each of them is concerned:

1. What transportation problems do you have in connection with packaging, bulkheading, dunnage, loading, palletizing, and stowing practices?
2. Do you have any difficulties at terminals, ports, and airports?
3. Do you have any special problems relating to loss and damage claims?
4. Are transit, reconsignment, and accessorial services adequate?
5. Does the lack of reciprocal switching affect your distribution?
6. What other transportation problems are of importance in your program?

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#### USDA INVENTOR PERFECTS FIBER-MEASURING DEVICES

Seven devices for determining the fineness, shape, length, surface structure, and other characteristics of fibers are described in a 2-page report recently issued by the U. S. Department of Agriculture. The devices were developed by Dr. John I. Hardy, research scientist of the Bureau of Animal Industry, and are adapted to a wide range of agricultural and industrial uses.

The knowledge obtainable with the various instruments is valuable in the breeding of improved plants and animals. It is also useful in the textile industry, in the manufacture of felt, and in cleaning and dyeing operations. The devices have proved valuable not only in studying wool, on which most of them were first used, but also in industries that handle mohair, cotton, fur, bristles, paper, leather, cork, silk, and other fibers.

One of the inventions is a holder for determining the fineness of wool fibers. It has a small slot of known size in which fibers are packed to a desired depth and held down to a uniform pressure by small weights. Excess fibers are cut away by a razor blade, which is a part of the device, and the fibers remaining in the slot are counted. The fewer the fibers the coarser they are, and vice versa. The other inventions are similarly practical.

Cotton.--The Commodity Credit Corporation has announced a pro rata distribution of \$6,183,388 among 393,359 cotton growers of the proceeds from cotton which the Corporation pooled from the 1943 crop. Upon completion of the payments, CCC expects to begin distribution of the proceeds of the 1944- and 1945-crop pools, probably by the end of September.... An interim cotton loan rate of 24.75 cents a pound has been made effective for 1947-crop Middling 7/8-inch cotton, gross weight at average location. The interim rate for 1946-crop cotton was 20.25 cents a pound. Also announced are premiums and discounts for all qualities of 1947 American upland cotton, applicable to both interim and regular crop loans.... USDA chemists have developed a differential dyeing procedure for testing the maturity of cotton fibers. It is based on the fact that mature cotton fibers are thick-walled and immature fibers are thin-walled, and that thick- and thin-walled fibers take the same dyes differently and also take different dyes.

Dairy and Poultry Products.--USDA has amended Federal Order 42, regulating milk handling in the New Orleans, La., milk market, following tentative approval of a new marketing agreement on May 8, 1947.... The producer price of Class I-A (fluid) milk under Federal Order 27, regulating milk handling in the New York metropolitan marketing area, has been established at \$4.58 per hundredweight for July 1947.... Egg support prices in the Midwest during July will reflect an average price to producers of at least 35 cents a dozen for shell eggs--the same as the prices in May and June.

Fruits and Vegetables.--Eligible public and charitable institutions have been asked to apply for allotments of surplus early potatoes, if they are within practicable shipping distance of the areas of current harvest. These are potatoes which USDA is required to purchase under the mandatory price-support program.... USDA tests have determined that dehydration offers the best way to preserve the distinctive flavor of green vegetable soybeans. The green-dried beans rank higher than canned soyas in flavor, color, and texture.

Grain.--Purchase agreements as well as loan contracts will be offered to wheat growers on their 1947 crops. Only wheat grading No. 3 or better, or No. 4 or No. 5 because of test weight only, will be eligible for loan or purchase.... A price-support program on 1947-crop oats provides purchase agreements, purchases, and loans. It is designed to retain stocks on farms for feeding and as a reserve against possible industry and export needs.... A price-support purchase and loan program has been announced on 1947-crop grain sorghums.... The price-support program for 1947-crop thresher-run dry edible peas will be implemented through purchase agreements with growers. Thresher-run dry edible smooth peas of the classes Alaska, Bluebell, Scotch Green, First and Best, Marrowfat, White Canada, and Colorado White which would grade U. S. No. 2 or better after normal cleaning will be eligible for price support at 90 percent of the comparable price as of July 1, 1947.

Livestock and Wool.--In June, USDA purchased about 25 million pounds

of lard and rendered pork fat for shipment to the combined U. S.-United Kingdom zone of occupied Germany and other European areas.... World wool production has dropped to the lowest level since 1935. Wool stocks that accumulated during the war are still unusually large, although 10 percent smaller than a year ago.

Tobacco.--USDA has designated the flue-cured tobacco market at Fayetteville, N. C., for free and mandatory inspection and market news service, following a referendum in which 99 percent of the growers voting favored the action.

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#### U. S. WAREHOUSE ACT HIGHEST AUTHORITY IN WAREHOUSING AGRICULTURAL PRODUCTS

The U. S. Warehouse Act supersedes State statutes regulating the warehousing in federally licensed warehouses of agricultural products, according to a ruling of the U. S. Supreme Court announced May 6.

According to the Supreme Court, when the U. S. Warehouse Act became law in 1916, Congress intended the act to be subordinate to State warehouse regulations. But in 1931, Congress revised the act and removed the words which had made the Federal act subordinate to State warehouse regulation. In addition, Congress added the words, "the power, jurisdiction, and the authority [of the Secretary conferred under the act] shall be exclusive with respect to all persons [licensed under the act]."

Since licensing of warehouses under the Federal act is voluntary, however, and not mandatory. State regulation may extend to all warehouses not federally licensed.

The Supreme Court announced this decision after deliberation on two cases which were considered simultaneously. One case was Daniel F. Rice and Joseph J. Rice, grain dealers of Chicago, against the Santa Fe Elevator Corporation and other federally licensed warehouses. The other case was the Illinois Commerce Commission, also against the same elevator corporation and other federally licensed warehouses. This corporation operates as a licensed public grain warehouse under the U. S. Warehouse Act.

The case grew out of a petition filed by the Rices, a partnership, against the elevator corporation before the Illinois Commerce Commission charging the corporation and the other federally licensed warehouses with violating provisions of Illinois statutes relating to warehouses. The corporation then filed an action in the U. S. District Court to forbid the Commission to take jurisdiction, but this was denied. The corporation then appealed to the Circuit Court of Appeals at Chicago, which held that the Federal act superseded State statutes regulating warehouses. Because of the public importance of the question, the Supreme Court agreed to review the case.

The following addresses and publications, issued recently, may be obtained upon request. To order, check on this page the publications desired, detach and mail to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Addresses:

Land Fever, by Clinton P. Anderson, Secretary of Agriculture, Washington, D. C. June 9, 1947. 10 pp. (Mimeographed)

Green Pastures: A Dollars and Sense Policy, by Clinton P. Anderson, Secretary of Agriculture, Durham, N. H. June 3, 1947. 12 pp. (Mimeo-graphed)

Production and Marketing--a Partnership, by Jesse B. Gilmer, Administrator, Production and Marketing Administration, New York, N. Y. May 27, 1947. 6 pp. (Mimeographed)

Publications:

Test of Refrigerator Car Equipped With Split-Absorption System of Refrigeration. (PMA) May 1947. 20 pp. (Multilithed)

Wholesale Prices of Fruits and Vegetables at New York City, Chicago, and Leading Shipping Points, by Months, 1946. (PMA) May 1947. 72 pp. (Mimeographed)

Canned Citrus Fruit Segments and Juices--Annual Pack and Disposition Data, 1928-29 to 1945-46. (PMA) June 1947. 19 pp. (Multilithed)

Questions and Answers on the Price-Support Program for Eggs During 1947. (PMA) March 1947. 5 pp. (Multilithed)

The Balance Sheet of Agriculture, 1946. MP 620. (Bureau of Agricultural Economics) January 1947. 56 pp. (Printed)

